

M1.

- (a) (10, 20.8), (20, 21.6), (30, 22.4) and (40, 23.2) plotted

B1

Straight line through their points

ft line of best fit following plotting error

B1ft

- (b) [19.9, 20.1]

B1

- (c) **Alternative method 1**

21.2 or 22.8

M1

1.6

ft their graph

A1ft

Alternative method 2

$(20.8 + 21.6) \div 2$ or 21.2

or

$(22.4 + 23.2) \div 2$ or 22.8

M1

1.6

A1

Alternative method 3

23.2 – 21.6

or

22.4 – 20.8

or

21.6 – 20

or

$(22.4 - 21.6) \times 2$

or

$(23.2 - 22.4) \times 2$

Finds the difference for any two masses 20 kg apart

or

Doubles the difference for any two masses 10 kg apart

M1

1.6

A1

[5]

M2.(a) -4, 2, 8

B1 for two correct

B2

(b) Two of their points plotted correctly
ignore incorrect points

M1

Fully correct straight ruled line from (-2, -4) to (2, 8)

A1

Additional Guidance

Lines must be clearly drawn with a ruled line

(c) 3

B1

Additional Guidance

$\frac{3}{1}$ on answer line is B1

[5]

M3.(a) $y = 1.5x + 3$

oe $3x + 2y = 6$

$$B2 \ y = 1.5x + 3$$

$$B2 \ -1.5x + 3$$

$$B2 \ y = -1.5x + c$$

$$B1 \ y = mx + 3$$

$$B1 \ y = 1.5x + c$$

$$B1 \ 1.5x + 3$$

$$B1 \ -\frac{3}{2} \text{ oe}$$

B3

(b) $y = 3x - 9$ oe

$$B1 \ y = 3x + c; \ c \text{ not } 4$$

$$B1 \ 3x - 9$$

$$B1 \ -3 = 3 \times 2 + c$$

B2

[5]

M4. (a) $C = 10d + 20$

B1

(b) Plots at least two correct points $(\frac{1}{2} \text{ sq})$

M1

Correct line from (0, 30) at least to intersection at (5, 70)

A1

(c) First Cars

Strict ft

B1 ft

Cheaper (check graph) Graph lower down Roys Rentals = 90 and First Cars = 86
oe

B1 ft

[5]

M5. (a) $C = 8d + 16$
Last one

B1

(b) Plots graph ... at least two correct coordinates for $C = 9d + 11$
Works out costs for at least 2 days for Woods Tool Hire ...
20, 29, 38, 47, 56 ... (minimum of 2 of these)

M1

Correct straight line to intersection at (5, 56)
Identifies equal cost for 5 days

A1

No ticked with valid statement No may be implied
eg cheaper up to 4 days, equal costs for 5 days, more expensive for 6 days onwards

A1

Alternative method 1

$$8d + 16 = 9d + 11$$

M1

$$d = 5$$

A1

No ticked with valid statement No may be implied
eg cheaper up to 4 days, equal costs for 5 days, more expensive for 6 days onwards

A1

Alternative method 2

$$9 \times \text{their } d + 11$$

their $d \geq 5$

M1

Correct calculation

A1

Corresponding correct value from Branch Tool Hire **and** No ticked No may be implied

From graph or using correct formula

A1

[4]

M6. Gradient = 2 or $y = 2x + c$

m = 2 earns this mark

M1

Substituting $x = 250, y = 620$ or $x = 400, y = 920$

M1 dep

$c = 120$ or $C = (0, 120)$

A1

$D = (-60, 0)$

A1

Alternative method

Sight of 150 and 300 or ratio 1 to 2

M1

Finds an intermediate point between $C = (0, 120)$ and $(200, 520)$

This point implies M2

M1 dep

$C = (0, 120)$

A1

$D = (-60, 0)$

A1

[4]

